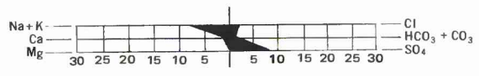
UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

PROFESSIONAL PAPER 1044–G
PLATE 2

## EXPLANATION

- Nonflowing well
- Nonflowing well, sampled for chemical or isotope analysis
- Well which normally flows at or above land surface
- Flowing well, sampled for chemical or isotope analysis
- Well in which temperature profile was obtained
- Perennial spring. Tail indicates direction of flow
- Perennial spring, sampled for chemical or isotope analysis
- 1000 — Line of equal specific electrical conductance, in micromhos per centimeter (μmho/cm) at 25°C. Dashed where approximately located
- 28/ Sequence number of well or spring sampled for chemical analysis (table 7)
- /1150 Specific electrical conductance of water sample, in μmho/cm at 25°C /X indicates no value available

SCALE FOR STIFF DIAGRAMS



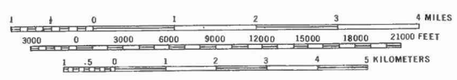

Milliequivalents per liter

The contour lines shown on the map separate areas in which wells of moderate depth (150-500 ft) may be expected to produce water whose specific electrical conductance is between the indicated values. The electrical conductance of water is closely related to the amount and nature of dissolved solids in the water; high conductance indicates a high concentration of dissolved minerals.

The map is intended to indicate only the generalized areal pattern of specific conductance. Contours are based on scanty data at some places. For example, the position of the 1000-μmho line west of the Klamath Hills is uncertain owing to a complete lack of data in the immediate area.

The Stiff diagrams have three characteristic shapes corresponding to sodium sulfate waters (hot), sodium bicarbonate waters (warm), and calcium bicarbonate waters (cold). The example shown on the scale above represents a typical hot water containing about 9 miliequivalents per liter (meq $L^{-1}$) Na, 1 meq $L^{-1}$ Ca, 0.0 Mg, 2 meq $L^{-1}$ Cl, 1 meq $L^{-1}$ $HCO_3$, and 9 meq $L^{-1}$ $SO_4$.


APPROXIMATE MEAN DECLINATION, 1957




CONTOUR INTERVAL 40 FEET
DOTTED LINES REPRESENT 20-FOOT CONTOURS
NATIONAL GEODETIC VERTICAL DATUM OF 1929


Study area

Base from U.S. Geological Survey
Merrill and Klamath Falls, Oregon-California; Modoc Point, Oregon
1:62,500, 1957

# MAP SHOWING SPECIFIC ELECTRICAL CONDUCTANCE AND STIFF DIAGRAMS OF THE PRINCIPAL DISSOLVED CONSTITUENTS IN GROUND-WATER